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## SEDENTARY MEN AND STIMULANTS.

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THAT those somewhat indefinite, numerous, and entirely abominable disorders termed dyspepsia and biliousness belong peculiarly to sedentary men is a quite noticeable fact. The writer's memory recalls very few instances where out-of-door, daily laborers have applied for the relief of sufferings of this class, and, when this has been the case, their maladies have always proved to be true organic diseases, and not mere disorders, while, among professional or business men, similar symptoms usually indicate the presence of disorder only.

It is unnecessary here to attempt to depict a life rendered burdensome and often intolerable by these maladies. But the utter misery of the poor, melancholy, irritable victim must be felt to be appreciated. His whole physical, mental, and moral nature is vitiated. He becomes a curse to himself and to all who come in contact with him. This is the more deplorable since such martyrs, for the most part, rank among the leaders of the world in thought and action, among the delicate, refined, and educated, the choice products of civilization. Language fails to describe the aggregate of woe daily endured by this large class of our fellows, and by those who are dependent upon them. It cannot be exaggerated, and is the more lamentable since it certainly can be avoided or palliated to a very large extent.

It has been well said that "half that passes in the world for talent is nothing but exuberant health." And it might truthfully be added that sound thought, true emotion, and clear discrimination must originate in healthful organisms. As well expect good music from an organ out of tune as right thoughts, virtuous emotions, and just judgments from a brain not backed and sustained by a stomach and liver that functionate normally.

It may be that much that is weird and mystic in poetry and art, in philosophy and religion, much which is eccentric in life,

much even which has passed for genius among men, might never have dawned upon an entirely healthful race. But it may well be questioned whether mankind could not have advantageously dispensed with such vagaries. What has the world not suffered from cynical philosophers, morbid religionists, and fanatical reformers of every kind and degree, who but for foul stomachs and congested livers might have blessed it !

For these great organs stand at the very threshold of the body. Through both must pass, and undergo elaboration, all the food upon which life depends, and imperfect function here scatters havoc throughout the entire system.

It is assumed, then, that dyspepsia and biliaryness are peculiarly and distinctively the maladies of sedentary men. Why is this the case ? Is there a remedy ? And, if not, how can these evils be reduced to a minimum ?

To this result, doubtless, many causes contribute. *But the main and efficient cause lies in the destruction of the relations which should exist between food and the wants of the organism by the essential and unavoidable habits of sedentary life.*

To many, perhaps, this will appear an at least doubtful assertion. But, if it be not susceptible of exact proof, it can be shown that it is very possible—indeed, that it is a far more probable and sufficient theory than any heretofore propounded, while it surely is one which guides us to the most simple and effective means for the palliation of this melancholy state of things.

In the discussion of this subject, let us begin with distinct definitions and clear physiological principles.

Dyspepsia may be defined as indigestion, or digestion performed with pain or distress.

Biliaryness includes a variety of symptoms, which are known to depend upon disordered function of the liver. It is unnecessary to repeat them here.

Turning now to physiology. It has been demonstrated that the phenomena of life are accompanied by, and, in some sort, are, dependent upon constant disintegration and waste, and equally constant renewal and repair of all the tissues.

It is also a law of the body that increased use of any tissue or organ involves an increase of waste, and consequent necessity for additional or more active repair in that special part.

To a large extent this truth has been established by direct

experiment. It is also confirmed by the failure of particular organs to perform their functions beyond a certain point. Especially marked is this in those whose action is under the control of the will, and which can, therefore, be compelled to prolonged and excessive effort.

But repair must come from fresh material derived from properly digested and assimilated food.

Excessive muscular exertion, then, causes an over-production of urea and other similar substances, and demands an excess of material suitable to muscular reconstruction.

So, also, excessive use of the brain involves excessive waste of the nervous tissues and a corresponding necessity.

But food is practically invariable in its constituents. Each mouthful contains a definite and fixed proportion of elements—so much for the skin, so much for the muscles, so much for the brain, etc.

Now, let it be granted that this is the proper proportion. That, under or without the direction of a higher power, the wit of man has enabled him to select suitable materials for food and properly prepare them for the stomach. But are there no conditions—no premises here? Surely. And these are, first, that the individual is physiologically perfect; and second, that he lives physiologically.

But where shall we find the normal man, and who lives or can live physiologically? We do not know a tithe of the laws of life, and violate those we do know constantly. Is it physiological to live in houses, to wear clothes? How much sleep is proper for each? Is it right to retire with the birds, or consistent to turn night into day? Is it even physiological to perform the labor compelled by the primal curse?

Our ignorance on these, and a multitude of other points, is very great. In short, to live in accord with the few of nature's laws which have been discovered is an utter impossibility. The demands of life will not admit of compliance with them, and the result is disorder, derangement, and disaster at every turn.

To take opposing classes as examples, let us consider the conditions of the laboring and sedentary man. The former wastes his muscles out of all proportion to his brain, while the latter does the exact reverse, and both thus destroy the relations which should exist between their food and necessary repair.

Both must eat the same food, and each is compelled to swallow more than he needs for one portion of his body in order that he may obtain sufficient nourishment for another.

To the laborer this condition of affairs is comparatively harmless, for two reasons. He can not use his muscles without employing his brain to some extent, and an excess of material for so small a part of the body as the nervous system is easily disposed of by the various emunctories. But with the sedentary the difficulty is much greater, for use of the brain does not include nor necessitate muscular action, and, forming, as do the muscles, the main bulk of the body, and the elements in the food adapted to their nutrition being far the most abundant, the disproportion is greater, and the injurious results more numerous and obvious. In order that his overtired brain may obtain sufficient nutritive material, he must eat largely, and, of course, too abundantly for the unemployed portion of his body. And these are the inevitable and natural results, viz.: If his stomach is unable to accomplish the work put upon it, it complains—*voila dyspepsia!* If it does digest it, his portal circulation is overloaded, the liver fails to complete its functions, and behold, biliaryness!

It is certain that sedentary men (unless their appetites are restricted) are quite as heavy eaters as laborers, and rarely escape the disorders mentioned. The exceptions named comprise those who already suffer from these maladies, or who, by the habitual use of the so-called paratriptics, tea, coffee, tobacco, wine, etc., daily lessen the waste of the brain, and thus diminish the amount of necessary food. Setting these aside, every hospitable house-keeper knows, and exact experiment proves, that sedentary men are quite as large consumers as an equal number of daily laborers. They must eat largely or fail to obtain sufficient brain supply from food which contains but a small proportion of it. Even then it is probable that the nervous tissues often suffer from starvation. Else why the frequent examples of collapse in this class of the community?

What can be done to modify this condition of affairs and to palliate its consequences?

No doubt a complete readjustment of the habits of sedentary men would do most toward eradicating these evils. A reduction of the hours of mental strain by one-half, and a devotion of the time thus exempt to suitable exercise and recreation would proba-

bly remove the whole difficulty. But such a revolution, unhappily, is Utopian, and therefore unworthy of consideration.

Much study and experiment has been bestowed upon modifications of diet to this end, and something has been accomplished. More perfect methods of preparing food have been adopted, and artificial aids to digestion have been introduced to assist the overtaxed stomach. But these only serve to shift the burden over upon the liver, which, having fewer sensitive nerves, has less voice with which to complain.

The only really effective and feasible means of palliation in this dilemma are to be found in the judicious employment of those substances which nature has placed in our hands, apparently for this very purpose, and which the blind instinct of man has already discovered and applied. I refer to the use of the so-called paratriptics—or preventers of waste in the body. Of these the most common and best known are wine, tea, coffee, and tobacco. Other substances, such as the South American coca, the betel nut, and all the narcotics exhibit similar powers.

No doubt all of these substances exert a more or less deleterious influence, especially when first used. But it is not a little curious that to the poisonous properties of most of them the system soon becomes unresponsive, while the paratriptic effect persists and daily continues to manifest itself. The novice in the use of tobacco is nauseated and often greatly prostrated by it. But, after a more or less protracted time, these unpleasant symptoms cease to appear, while the daily habit still limits the amount of food consumed. The same is true of arsenic and of some other poisons, while others still produce cumulative effects. Of these latter, digitalis is an example. The tolerance mentioned is, however, in some persons, established with difficulty, and with certain temperaments and individuals certain of the paratriptics persistently disagree. Intelligent and careful adaptation is necessary. One man cannot endure the effects of tea, while coffee agrees with him. To another coffee is injurious, while tobacco is grateful and beneficial.

Now, no physiological fact is better established than that all these substances, while they differ widely in some respects, possess in common the power, in some way not fully understood, of limiting disintegration and waste in the tissues. And not only so but they manifest this influence especially, and more decidedly, in

those portions of the body which are most used. They act like oil on the joints of machinery, lubricating, preventing friction and wear. Testimony to these facts is abundant and convincing.

And still we find many who strenuously object to the use of these paratriptics, and consider them very harmful to mankind.

To the employment of tea and coffee little opposition is made at the present day. But time was when even these were objurgated severely. To tobacco and wine, however, there still exists the most violent objection, which, as a rule, proceeds from the very men who most need them.

To reply fully to such partisans would consume more space than is now at command. But of the devout, who believe in the guidance of the race toward ever better and higher conditions, and even in personal control by a beneficent Providence, we may properly ask why mankind has been led to the discovery and universal employment of such substances. Why, indeed, were tea, coffee, and tobacco ever created—plants which possess almost no other than a paratriptic value?

Of the optimist we may inquire how it happens that no barbarous nation was ever found without some similar substitute for food? How shall we explain the marvelous avidity with which the race has seized upon plants of this kind? And, if their consumption is so extensive, as we know it to be, and so prejudicial as some would have us believe, how is it that, since their introduction, the average duration of life has so greatly increased?

A very brief statement of well-known historical facts will be appropriate here.

It is about two hundred years since tea and coffee were brought into Europe, and now millions of tons of them are annually consumed.

Columbus discovered tobacco with America. Not till a century later was it much used. But since that date the rapidity and universality of its spread has been unequaled by any other substance. For every soul existing upon the entire planet, five pounds are now yearly demanded. This is far beyond what can be said of rice or maize, or any other vegetable product ever presented to the palate of man.

Wines, too, or equivalent stimulants, have been universally adopted.

Surely there must be some sound physiological reason for such

wonderful phenomena—for a craving common to the whole race. The rigors of climate have taught man everywhere to build houses and to wear clothes. His reason and taste have led him to cook and season his food. His habits in these regards have a self-evident origin. But no such explanation is competent to the above facts.

It will not serve to claim that man has chosen these things because they afford him pleasure or enjoyment. Doubtless some of them do; but tea and coffee can hardly be reckoned as sensual delights, and certainly, to the novice, tobacco is nauseous in a high degree. Still further, the pleasurable effects of haschisch and of opium have long been known to the world, and still men do not, and will not, use them as they use tobacco.

The fact is that these paratriptics meet some want in human life. And no better or more rational solution of the problem can be given than this, viz., that the demand for them is based upon their power to prevent waste in the body, so that, by their help, men can work longer and endure more privation with a smaller amount of food.

Who shall measure these benefits, or adequately depict them? Silently and unseen these tremendous influences are at work, and their effects, in the aggregate, must be astounding. It would be a small estimate of their powers to claim that they reduce the otherwise necessary food supply by one-tenth, and this in a world where even now famine and starvation are not unknown.

Wherever men are obliged to endure hardship and privation their aid is indispensable. The soldier, the sailor, the explorer, the sedentary man, the laborer, all fly to them for help. Mole-schott calls them the "savings bank" of the tissues, and the common voice of physiologists unites with the almost universal testimony of mankind in pronouncing them a blessing to humanity.

It is now time to remark that it is the properly limited employment of paratriptics to which we refer. They are not food, although, temporarily and continuously, they supplement it. And excess in the use of any of them probably never fails to result in injury more or less extensive and lasting. But this is true of excess in any good thing. And it must be noted that excess is a purely relative term. Moderation for one is excess for another, and *vice versa*. Excess, too, in some of them is a far greater evil than excess in others.

Of those in common use, without doubt, the various forms of alcohol are capable of inflicting the greatest amount of injury. Separated by a long distance, follow, in their order, tea, tobacco, and coffee.

Much has been said of the dreadful results of the use of coca by etiological idiots, who attribute all the ailments of the debased Peruvian Indians to its consumption. They rival in wisdom those who lay all the physical woes of modern life at the door of vaccination. Some instances have been adduced in the public prints of insanity and death following over indulgence in its main derivative—cocaine. But these have never yet been properly linked as cause and effect.

Lack of space forbids more than a brief analysis of the effects of the paratriptics named. We cannot now give them more attention singly than will be germane to our subject.

All the world knows but too well the terrible results of the abuse of alcohol. But these should not blind our eyes to the beneficial effects of its proper employment. The latter are immeasurable and unseen even except by physicians, and, in the estimate, it should have no light weight that, while none know better than they the fearful consequences of excess, the most intelligent and conscientious physicians still universally prescribe alcoholic beverages.

They often find it impossible to save or to prolong life without them. In 1867 Sir Francis Skey stated that during the preceding forty years, the consumption of stimulants in the London hospitals had increased fourfold.

Some physiologists claim that they are true foods, since it is an undisputed fact that they are, in some way, at least partially consumed in the body. But, we do not need a scientist to proclaim their paratriptic power, for common observation shows how little the drunkard eats.

During a famine in Germany, Baron Liebig states that in temperance families where beer was rejected, and the money it would have cost given in its place, it was soon found that the monthly consumption of bread was so strikingly increased that the beer was twice paid for—once in money, and a second time in bread. With this conclusion also agree many other experiments.

It is a serious mistake to claim that all forms of dilute alcohol are, and can be, nothing but poison, because when concentrated or

in large quantities it has been proven to be such. Salt is a valuable ingredient of food, but strong solutions of it are poisonous.

Nor can we allow what reformers so vigorously claim, that moderation in stimulants necessarily leads to excess. Careful observation will convince any candid mind that of those who have long partaken moderately of wines, etc., but a very small minority ever become drunkards.

There appear to be two quite different temperaments regarding the effects of stimulants. One is pleasantly affected by them. The more he consumes the more happy he feels, the more vivid become his emotions, the more brilliant his conceptions, and drunkenness is the supreme point of enjoyment. Fortunately this is true of but a very small number. Upon the great majority of men stimulants have a stupefying effect, and even an approach to drunkenness is accompanied by such nausea, vertigo, and general discomfort, that one such experience forbids repetition. Of these two classes of men the former become drunkards with great uniformity. Moderation, to them, in stimulants, and usually in any delightsome thing, is an impossibility. But the majority form a class out of which drunkards are never made, unless it be by remorse or trouble.

To suppose, then, that there is any necessary connection between moderation and excess in alcohol, is not only to fly in the face of evidence, but to ignore physiology. Multitudes of men daily consume a certain amount of tea, coffee, tobacco, or wine with unvarying regularity for a lifetime, and never increase the amount. It must be remembered that the tissue of to-day is not the tissue of to-morrow. The particles acted upon to-day will not be living when fresh influences are applied to-morrow.

Whether the evil results of a use of alcoholic beverages as a whole outweigh the beneficial effects derived from their moderate use must ever remain an open question. There can be no doubt, however, that the former are palpable and cognizable, as well as enormous, while the latter are obscure and hidden; that the former are often exaggerated, and the latter entirely overlooked.

But, in any event, it cannot be truthfully denied that the various derivatives from the grape have a paratriptic influence of no small extent and value to mankind.

Next to alcohol in its injurious effects upon its consumers, I

have placed tea, and its proper position there will hardly be disputed by any observant physician, although, as remarked, an immense hiatus exists between the two substances. Chief among its bad effects must be ranked constipation and excessive nervousness. It contains about eighteen per cent. of tannin—a well-known astringent which notably restricts the normal action of the intestines. The evils of the habit thus induced need not be discussed here. It is sufficient to state that they are numerous and very great.

Again, when taken in strong solution and frequently, tea produces nervous tremors, irregular action of the heart, and, in animals, even paralysis. The excessive tea drinker starts and screams at every sudden incident. Very marked are its paratriptic effects among ordinary domestics who are greatly addicted to its use. Every housekeeper observes among her servants some who labor hard and continuously, who maintain their flesh and strength, and yet who eat almost nothing. Year after year they continue this custom without perceptible change. Such persons consume tea in great excess. But, though, often enough, it renders their lives miserable, I am not aware that it results in disease or shortens the natural term of existence. It is certainly a paratriptic of great value.

It is not a little remarkable that tobacco, one of the least harmful of these substances, should have been so long and so loudly decried. From the "counterblast" of King James to the fulminations of the latest gathering of the clergy, the diatribes uttered against its use have been equaled only by the denunciations of alcohol. In these, many physicians, who should know better, have heartily joined. And yet, in spite of this, not only, but in defiance of its nauseous properties, and of the disgusting forms in which it has often been used, the rapidity and universality of its adoption by the race speak volumes for its peculiar adaptation to the demands of life.

Quite incapable of producing the exhilarating effects of alcohol, mildly narcotic only as compared with opium and other substances of this class, almost destitute of power to give pleasurable sensations or to excite the emotions, its acceptance by man has no parallel in quickness and extent, its hold upon him is absolute, and its popularity ever continues to increase. It appeals equally to the savage, to the civilized, and to all classes in

the community. And for these truly wonderful facts there is no conceivable sufficient explanation, except this, viz.: that it is, of all others, the paratriptic which best meets the demands of customary life, is best adapted to the habits of men, and is practically found to produce but slight injurious results.

Certainly most of the bad effects which have been charged to its excessive and continued use are either entirely undeserved or greatly exaggerated.

It is matter for well-merited astonishment that even men of discernment are so ready often to select a single one out of the endless chain of causes, and attribute to it alone certain results. Surely of all sciences etiology is least entitled to respect. And no more glaring example of the foolish facility mentioned exists than that common even among eminent oculists, who charge upon the excessive use of tobacco a certain form of atrophy of the optic nerve. And this they persist in doing even though that opinion is based upon a mere supposition, and although competent colleagues of their own, residing in countries like Turkey, where the ordinary use of tobacco fully equals what we should term great excess, declare that this form of disease of the eye is there utterly unknown. There are nations where the smoking of tobacco is begun by infants before they can walk, and where the habit is universal, and were these wiseacres correct in their etiology, the entire adult population ought logically to be blind.

*Ex uno discere omnes.* Not a single charge brought against tobacco has a better basis. With great wisdom it is remarked, how much better health some individual has attained since ceasing to use tobacco. But any decisive change in long-continued habits—even what are termed “good habits”—is often temporarily beneficial. The great curative principle of change is what has been successfully appealed to here—the most powerful, and, in fact, broadly considered, the only existing curative principle.

In estimating the true influence of tobacco and its congeners, it is manifestly unfair to consider individual instances of their use. Only by taking masses of men who for years are under control as to their diet and habits, and who, therefore, live upon equal terms, can we approximate a fair estimate *ex usso*. And in this regard there could be no test more equitable than that made by Sir John Sinclair, and recorded in his “Code of Health” recently published. In the pension hospitals of England Sir John

found one hundred and fifty men over eighty years of age. Fifteen of them were over ninety, and four were over one hundred. These formed the remnant of the armies of England. The rest were dead, and of these survivors all but two had been consumers of "the weed" all their lives. It may be added that the use of tobacco by smoking forms the most desirable paratriptic for the dyspeptic, as it decidedly assists digestion by stimulating the secretion of gastric juice. It appears to be most useful to men of lymphatic temperament, and to disagree most decidedly with those of highly developed nervous organizations.

Regarding coffee little need be said. Its effects are similar to those of tea; but, since the proportion of tannin is much less, it does not constipate, as a rule, and, as it is less abused, its harmful powers are less manifest.

Concerning coca, the great South American analogue of tea and coffee, but few words are necessary, since it is only a recent importation in this country and in Europe. An experience of more than twenty years in its use by the writer, and by many others under his direction, however, enables him to state his conviction that, while it is the most powerful paratriptic known, it is also the one which least disturbs the functions of the body, and is, therefore, probably the least harmful of any. I have elsewhere\* discussed its properties *in extenso*, and to that work the reader is referred for more complete information.

And now, of all these paratriptics, it should finally be said that only personal trial or skilled advice can determine which is best suited to each individual. The writer has often successfully prescribed them to many of the class to which reference has been made for the relief and cure of the maladies named. And, if to the use of these be added an entire avoidance of *the greatest gastronomic sin of the times, viz., an indulgence in all forms of freshly baked bread*, he has good ground for the opinion that biliousness and dyspepsia would largely cease to afflict sedentary men.

W. S. SEARLE, A. M., M. D.

\* See Essay on Coca. Fords, Howard & Hurlburt, N. Y. 1881.